

Docket No. 204290US2X/smc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Hayami SUGIYAMA, et al.

SERIAL NO: 09/800,504

GAU: 2861

FILED: March 8, 2001

EXAMINER:

FOR: THERMAL HEAD AND CONTROLLER FOR CONTROLLING THE SAME

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Group Art Unit: 2861

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STATEMENT OF RELEVANCY

**Reference AO (JP 64-58566) on Form 1449:**

An example of a conventional thermal head is shown. A current supply controlling part 4b reads a one-line amount of printing data for printing the first line to be outputted from the circuit 4b, based on a clock signal supplied from a main body of a thermal printer. A current supply controlling part 4a reads a one-line amount of printing data for printing the second line, based on a clock signal. Printing pulses are simultaneously supplied to the controlling parts 4a, 4b. The controlling part 4b energizes predetermined heat generating resistors 16a, whereas the controlling part 4a energizes predetermined heat generating resistors 14a, whereby the first line and the second line are simultaneously printed.

**Reference AP (JP 10-138541) on Form 1449:**

An example of a conventional thermal head is shown. A heat sink 1 efficiently radiates heat generated in the respective parts of a thermal head into air and a long common electrode 3 is formed on the plane of a stainless steel substrate 2 to be connected to heating resistors 4, 4... and heating resistors 5, 5... in common and glaze 10 or 11 is arranged just under the heating resistors 4, 5. At a time of the printing by the heating resistors 4, a current is also supplied to the heating resistors 5 and generated heat energy heats printing paper and an ink ribbon to temp. just before a dye of the ink ribbon is diffused. Therefore, when a next line is printed, the heat energy accumulated on the printing paper and the ink ribbon is added to the heat energy generated by the heating resistors 4 and, therefore, the pulse width of the current supplied to the heating resistors 4 becomes short to enable high speed printing.

**Reference AQ (JP 10-151784) on Form 1449:**

An example of a conventional thermal head is shown. The thermal head comprises a stainless substrate 21 having a long common electrode part 22 projected on a surface thereof, a first glaze glass 241 formed at a left surface of the stainless substrate 21 at the left side of the common electrode part 22, a second glaze glass 242 formed at a right surface of the stainless substrate 21 at the right side of the common electrode part 22, a heat-generating resistance body 25 formed all over surfaces from the first glaze glass 241 to the second glaze glass 242 through the common electrode part 22, a first independent electrode 261 formed on the surface of the first glaze glass 241 and a second independent electrode 262 formed on the surface of the second glaze glass 242.